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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RAMINDERPAL SINGH, YOURI V. TRETIAKOV,
KUNAL VAED, and WAYNE H. WOODS, JR.

Appeal 2009-000226
Application 10/665,993
Technology Center 2800

Decided:¹ June 10, 2009

Before JOSEPH F. RUGGIERO, ROBERT E. NAPPI, and
THOMAS S. HAHN, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Final Rejection of claims 1-4, 7, and 8. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

We affirm.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief (filed August 7, 2006) and the Answer (mailed December 18, 2006) for the respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Brief have not been considered and are deemed to be waived (*see* 37 C.F.R. § 41.37(c)(1)(vii) (2008)).

Appellants' Invention

Appellants' invention relates to a vertically stacked coplanar transmission line structure for an integrated circuit design. The structure includes a micro-strip pair of first and second vertically stacked coplanar conductors, each having a metal layer, a next metal layer down, and an intermediate connecting via layer between the two metal layers. (*See generally* Spec. ¶¶ [0006]-[0008]).

Claim 1 is illustrative of the invention and reads as follows:

1. A vertically stacked coplanar transmission line structure for an integrated circuit (IC) chip defining a closed ground return path within the transmission line structure, comprising:

a micro-strip pair of first and second vertically stacked coplanar conductors, each first and second vertical stack comprising a metal layer, a next metal layer down, and an intermediate connecting via layer in between the metal layer and the next metal layer down, said intermediate connecting via layer comprising a via bar having a width dimension approximately equal to a width dimension of said first and second vertically

stacked coplanar conductors and having a length dimension approximately equal to a length dimension of said first and second vertically stacked coplanar conductors.

The Examiner's Rejection

The Examiner relies on the following prior art reference to show unpatentability:

Hajimiri	US 2004/0222859 A1	Nov. 11, 2004 (filed May 8, 2003)
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Claims 1-4, 7, and 8, all of the appealed claims, stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hajimiri.²

ISSUES

The pivotal issues before us in making the determination of whether the Examiner correctly rejected appealed claims 1-4, 7, and 8 for anticipation are whether Appellants have demonstrated that the Examiner erred in finding that Hajimiri discloses:

- i) a transmission line structure formed as a micro-strip pair of first and second vertically stacked coplanar conductors;
- ii) an intermediate connecting via bar layer in between the metal layers of the first and second vertical stacks of conductors; and
- iii) the width and length of the intermediate connecting via bar layer being approximately equal to the width and length of the first and second vertically stacked coplanar conductors.

² Although the Examiner's stated anticipation rejection cites 35 U.S.C. § 102(b), the rejection should properly be based on 35 U.S.C. § 102(e) since the Nov. 11, 2004 publication date of the Hajimiri reference is after the September 18, 2003 filing date of Appellants' application. We treat this as a harmless, inadvertent error on the part of the Examiner.

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence:

1. Hajimiri discloses (Fig. 5A; ¶ [0028]) a vertically stacked coplanar transmission line structure with a metal layer 606 and a “next metal layer down” 602.
2. Hajimiri further discloses (¶ [0016]) that the disclosed transmission line structure can be implemented as a “micro-strip” line.
3. Also disclosed by Hajimiri (Fig. 5A; ¶ [0028]) is an intermediate connecting transmission line layer 604 in between the metal layers 602 and 606.
4. Hajimiri illustrates different transmission line configurations, one (Fig. 5A) in which the metal layers and the interconnecting layer are depicted as being the same width and length, and another (Fig. 6A) in which the metal layers and the interconnecting layer are depicted as being of different widths and lengths.

PRINCIPLES OF LAW

Anticipation

“It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim.” *See In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986); *Lindemann Maschinenfabrik GMBH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1458 (Fed. Cir. 1984).

In rejecting claims under 35 U.S.C. § 102, “[a] single prior art reference that discloses, either expressly or inherently, each limitation of a

claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992)). “Anticipation of a patent claim requires a finding that the claim at issue ‘reads on’ a prior art reference.” *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999) (“In other words, if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art.”).

ANALYSIS

Appellants’ arguments in response to the Examiner’s anticipation rejection, based on Hajimiri, of representative independent claim 1 assert that the Examiner has not shown how each of the claimed features is present in the disclosure of Hajimiri so as to establish a prima facie case of anticipation.³ Appellants’ arguments (Br. 5-6) initially focus on the contention that, in contrast to the claimed micro-strip pair transmission line structure, Hajimiri’s disclosure is directed to a traveling-wave amplifier structure (TWAS) that functions as an oscillator.

We do not find Appellants’ arguments persuasive in convincing us of any error in the Examiner’s stated position. We agree with the Examiner (Ans. 3, 5, and 6) that Hajimiri discloses (*see* FFs 1 and 3) a transmission line structure in a vertically stacked coplanar configuration which, as disclosed, can be implemented as a micro-strip line (*see* FF 2).

³ Appellants argue claims 1-4, 7, and 8 together as a group. *See* App. Br. 8. Accordingly, we select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii).

We further find to be unpersuasive Appellants' argument (Br. 6-7) that the Examiner's identification of the transmission line 604 in the Figure 5A illustration of Hajimiri as corresponding to the claimed intermediate connecting via layer is in error. We note that the fact that Hajimiri uses different terminology from the instant claims is undisputed since the term "via" does not appear in Hajimiri. However, the reference need not use the same terms to be within the scope of what is claimed. *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). We find no error in the Examiner's finding (Ans. 3, 7, and 8) that Hajimiri's conductive layer 604, which is intermediately connected between the top metal layer 606 and the bottom metal layer 602, as illustrated in Hajimiri's Figure 5A, corresponds to the claimed intermediate connecting "via" layer structure. Appellants' contention (Br. 7) that the fact that the intermediate connecting layer 604 of Hajimiri couples the transmission lines 602 and 606 through active devices (amplifiers 608, 610) precludes it from being considered a "via" layer is not supported by any evidence on the record before us.

Lastly, Appellants' arguments have not persuaded us of any error in the Examiner's finding (Ans. 3 and 8) that the drawing illustrations in Figure 5A of Hajimiri provide a disclosure that the intermediately connected transmission layer bar 604, i.e., a via, is the same width and length as the first and second transmission line metal layers 602 and 606. It is well settled that the drawings of a prior art disclosure must be evaluated for what they reasonably disclose to one of ordinary skill. It is immaterial whether the illustrated feature may be unintended or unexplained in the prior art disclosure. *See In re Aslanian*, 590 F.2d 911 (CCPA 1979).

As pointed out by the Examiner (Ans. 8), Hajimiri does provide an illustration of an embodiment (Figs. 6A) in which the transmission line layers and their connecting line layers are depicted as being of different widths and lengths. With this in mind, it is reasonable to conclude, as did the Examiner, that when Hajimiri does illustrate (Fig. 5A) the transmission line layers as having equal widths and lengths, this depiction of equal lengths and widths is what was intended. We find sufficient evidence in the disclosure of Hajimiri, including the illustrations in Figures 5A and 6A, to shift the burden to Appellants to provide evidence, none of which has been provided, that the illustrated transmission lines could not be of equal length and width as they are depicted in Figure 5A.

In view of the above discussion, since Appellants have not demonstrated that the Examiner erred in finding that all of the claimed limitations are present in the disclosure of Hajimiri, the Examiner's 35 U.S.C. § 102 rejection of representative independent claim 1, as well as claims 2-4, 7, and 8 not separately argued by Appellants, is sustained.

CONCLUSION

Based on the findings of facts and analysis above, we conclude that Appellants have not shown that the Examiner erred in rejecting claims 1-4, 7, and 8 for anticipation under 35 U.S.C. § 102.

DECISION

The Examiner's decision rejecting claims 1-4, 7, and 8 under 35 U.S.C. § 102 is affirmed.

Appeal 2009-000226
Application 10/665,993

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

babc

Steven Fischman
Scully, Scott, Murphy & Presser
400 Garden City Plaza
Garden City, NY 11530